

Revision Log

Revision No.	Effective Date	Prepared By	Description of Changes	Affected Pages
0	2/18/05	Robert Watts	New Procedure	All

Database Change Management

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List of Acronyms and Abbreviations

DBA	Database administrator	ERDB_PROD	Environmental Restoration
DQA	Data quality application		Production Database
ECR	Environmental	LANL	Los Alamos National Laboratory
	Characterization and	PVCS	Project Version Control System
	Remediation	QP	Quality Procedure
ENV	Environmental	RPF	Records Processing Facility
	Stewardship	RS	Remediation Services
		SOP	Standard Operating Procedure

Database Change Management

1.0 PURPOSE

This standard operating procedure (SOP) states the responsibilities and describes the process for managing data updates to the Environmental Restoration Production Database (ERDB_PROD) for the Los Alamos National Laboratory (LANL or the Laboratory) Environmental Stewardship (ENV) Division – Remediation Services (RS) Project Environmental Characterization and Remediation (ECR) Group.

2.0 SCOPE

2.1 All **ENV-RS/ECR project participants** shall implement this procedure when managing data updates to ERDB_PROD.

3.0 TRAINING

- 3.1 **ENV-RS/ECR participants** shall train to (e.g., by reading and/or classroom training) and use the current version of this procedure; contact the author of this procedure if the text is unclear.
- 3.2 **ENV-RS/ECR participants** using this procedure shall document training in accordance with Quality Procedure 2.3 (QP-2.2), Personnel Training Management.
- 3.3 The responsible **project leader** shall monitor the proper implementation of this procedure.
- 3.4 The responsible **team leader** shall ensure that the appropriate personnel complete all applicable training assignments.
- 3.5 **ENV-RS/ECR participants** may request any needed assistance with implementation of this procedure from the ENV-RS/ECR Quality Integration and Improvement team.

4.0 DEFINITIONS

Audit table – Table associated with any table that is subject to change control. Audit tables have structures identical to their associated tables but also include fields for requester Z#, date requested, date implemented, change description, and change justification. Audit table names are of the form Tablename_audit.

Data Quality Application (DQA)- Application for managing and updating lookup tables.

Database administrator (DBA) – The individual(s) tasked with managing ERDB_PROD. The DBA is the sole individual with direct access to ERDB_PROD.

Lookup tables – Changes mediated through the Data Quality Application

Project Version Control System Version Manager (PVCS) – Application for managing and tracking changes to applications and data.

Process tables – Tables employed by one or more applications. Never directly accessed by users, process tables are only changed from within the associated application.

Tables subject to change control – All ERDB_PROD tables, excluding (a) lookup tables, (b) process tables, and (c) unused tables

Unused tables – Tables created as part of the design process. Unused tables are (a) empty and (b) unaffected by any applications

5.0 RESPONSIBLE PERSONNEL

The following personnel are responsible for activities identified in this procedure:

- DBA
- Project Leader
- ENV-RS/ECR Project Participants
- User

6.0 BACKGROUND AND PRECAUTIONS

None.

7.0 EQUIPMENT

None.

8.0 PROCEDURE

Make any deviations from this procedure in accordance with QP-5.7, Notebook Documentation for Environmental Restoration Technical Activities.

8.1 Initiate ERDB_PROD Change Request

8.1.1 The **user** shall query the relevant table to extract data and determine which fields require changing.

8.1.2 The **user** shall determine whether the relevant tables are subject to change control.

- 8.1.3 The **user** shall download the change request spreadsheet template (Attachment A) from <http://erinternal.lanl.gov/Quality/user/forms.asp> and populate on the spreadsheet the data to be changed.
- 8.1.4 The **user** shall download the change request form (Attachment B) from <http://erinternal.lanl.gov/Quality/user/forms.asp> and complete the initial section by documenting within it the following information:
- change summary
 - change justification
 - user ID
 - date
 - approval
- 8.1.5 The **user** shall email the completed change request spreadsheet and change request form to the DBA.
- 8.2 Review ERDB_PROD Change Request
- 8.2.1 Using unique ID from change request spreadsheet, the **DBA** shall extract the dataset to be changed.
- 8.2.2 The **DBA** shall review the change request and determine an implementation plan.
- 8.2.3 The **DBA** shall create a SQL update query.
- 8.2.4 The **DBA** shall test the updated query against the test database and verify that the query functions as it should.
- 8.2.5 The **DBA** shall complete second section of update request form by documenting within it the following information:
- affected tables
 - affected fields
 - text of SQL update script
 - date
 - approval
- 8.2.6 If required, the **DBA** shall forward the updated request spreadsheet and request form to ENV-Water Quality and Hydrology (if data is shared between ENV-ECR and ENV_WQH),

AAA (if data is at the sample level and request comes from outside AAA), or other applicable reviewers.

8.3 Make Change(s) to ERDB_PROD

8.3.1 If a change request requires approval, the **DBA** shall not perform the following steps until the applicable approval has been made.

8.3.2 The **DBA** shall populate the appropriate audit table by documenting within the table the following original and modified extracted dataset information :

- user ID
- date requested
- date implemented
- change description
- change justification

8.3.3 The **DBA** shall implement the changes in main ERDB table(s)

8.4 Document Change(s) to ERDB_PROD

8.4.1 The **DBA** shall log into PVCS Version Manager.

8.4.2 The **DBA** shall document the ERDB changes within PVCS by entering them to the RRES-RS project database.

8.4.2.1 The **DBA** shall create and enter into a .zip file the new ERDB_PROD data including:

8.4.2.1.1. Change request spreadsheet

8.4.2.1.2. Completed change request form

8.4.2.1.3. SQL update statement

8.4.2.2 The **DBA** shall name and save the .zip file using the followingname format YYYYMMDD[change description].zip.

8.4.2.3 The **DBA** shall checks the .zip file in to PVCS directory DBA\Data_Updates

8.4.3 The **DBA** shall save copies of the change request spreadsheet, change request form, supporting e-mail, and any other supporting documentation to the requester's Z# folder at

[\\ER5\Pueblo\Database_updates](#)

- 8.4.4 Once per year, the **DBA** shall submit all change request spreadsheets, change request forms, supporting emails, and any other supporting documentation, from the previous year, to the Records Processing Facility (RPF).

9.0 LESSONS LEARNED

- 9.1 Before performing work processes prescribed in this procedure, **RRES-RS/ECR participants** should access the Department of Energy Lessons Learned Information Services Web site, <http://www.tis.eh.doe.gov/II/II.html>, and Laboratory Lessons Learned Resources Web site, http://www.lanl.gov/projects/lessons_learned/, and search for applicable lessons learned.
- 9.2 **RRES-RS/ECR participants** should submit any lesson learned related to work prescribed in this procedure to the Laboratory Lessons Learned Resources Web site, http://www.lanl.gov/projects/lessons_learned/.

10.0 RECORDS

The **DBA** shall submit the following records to the RPF, in accordance with QP-4.4, Record Transmittal to the Records Processing Facility:

- change request spreadsheet
- change request form
- initiating email
- other supporting documentation

11.0 REFERENCES

To implement this procedure properly, **RRES-RS/ECR participants** should become familiar with the contents of the following documents. Unless indicated otherwise, these documents are available from

http://erinternal.lanl.gov/home_links/Library_proc.shtml:

- ENV-RS Quality Management Plan
- QP-2.2, Personnel Orientation and Training
- QP-4.2, Standard Operating Procedure Development
- QP-4.4, Record Transmittal to the Records Processing Facility
- QP-5.7, Notebook Documentation for Environmental Restoration Technical Activities

12.0 ATTACHMENTS

The **user** of this SOP may locate all forms associated with this procedure at <http://erinternal.lanl.gov/Quality/user/forms.asp>.

Attachment A: Change request spreadsheet (examples) (6 pages)

Attachment B: ERDB change request form (1 page)

[Using a token card, click here to record "self-study" training to this procedure.](#)

If you do not possess a token card or encounter problems, contact the ENV-ECR training specialist.

Attachment A: Change request Spreadsheet (examples)

Microsoft Excel - Change request template1.xls

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	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Field Name	Current Value	New Value		URI								
2	URI												
3	USI												
4	REQUEST_NUM												
5	LAB_REPORT_NUM												
6	LAB_SAMPLE_ID												
7	ANYL_SEQ_NUM												
8	ANYL_DATE												
9	ANYL_METH_CODE												
10	ANALYTE_CODE												
11	LAB_MATRIX_CODE												
12	LAB_SAMPLE_TYPE_CODE												
13	QC_BATCH_SEQ_NUM												
14	SYMBOL												
15	STD_RESULT												
16	STD_UNCERT												
17	STD_RESULT_UOM												
18	TEXT_RESULT												
19	UNCERT_TYPE_CODE												
20	UNIT_STD_CODE												
21	LAB_QUAL_CODE												
22	STD_IDL												
23	STD_MDL												
24	STD_MDA												
25	STD_QUANT_LMT												
26	STD_DLC												
27	RESULT												
28	UNCERT												
29	RESULT_UOM												
30	IDL												
31	MDL												
32	MDA												
33	QUANT_LMT												
34	DLC												

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A35 = CREATED_BY

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Field Name	Current Value	New Value		ULI								
2	ULI												
3	LOCATION_NAME												
4	LOCATION_TYPE_CODE												
5	X_COORD												
6	Y_COORD												
7	COORD_UOM												
8	COORD_METHOD_CODE												
9	COORD_SOURCE												
10	COORD_ACCURACY												
11	GL_ELEV												
12	ELEV_UOM												
13	ELEV_METHOD_CODE												
14	ELEV_SOURCE												
15	ELEV_ACCURACY												
16	ELEV_ACCURACY_UOM												
17	COORD_ACCURACY_UOM												
18	MEAS_REF_TYPE_CODE												
19	SURVEY_DATE												
20	DEM												
21	DRAINAGE_AREA												
22	LATITUDE												
23	LONGITUDE												
24	LL_METHOD_CODE												
25	LL_SOURCE												
26	COORD_UNAVAILABLE												
27	ELEV_UNAVAILABLE												
28	DIRECTIONS_TO_SITE												
29	PHOTO_LIB_REF_ID												
30	COMMENTS												
31	SOURCE_ORG_CODE												
32	DATA_STEWARD_CODE												
33	RELEASE_FLAG												
34	WEB_FLAG												

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Microsoft Excel - Change request template1.xls

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G10

	A	B	C	D	E	F	G	H	I	J	K	L
1	Field Name	Current Value	New Value		SUBJECT_ID							
2	SUBJECT_ID											
3	PRS_ID											
4	BRIEF_DESCRIPTION											
5	LONG_DESCRIPTION											
6	SPECIAL_ISSUE_FLAG											
7	SPECIAL_ISSUE_COMMENTS											
8	SOB_FLAG											
9	PRIVATE_PROPERTY_FLAG											
10	AA_ID											
11	AA_PROCESS_STATUS_ID											
12	FLOODPLAIN_FLAG											
13	IDENTIFIED_AS_PRIS_DATE											
14	HSWA_PERMIT_MOD_REFERENCE											
15	UNIT_STATUS_ID											
16	NFA_CRITERIA_ID											
17	NFA_INITIALLY_PROPOSED_DATE											
18	OPERATIONAL_HISTORY_DATE_RANGE											
19	WORKOFF_DATE											
20	STRUCTURE_NUMBER											
21	RAD_POTENTIAL_FLAG											
22	ER_CLEANEDUP_FLAG											
23	NON_ER_CLEANEDUP_FLAG											
24	LONG_TERM_MONITORING_FLAG											
25	SAMPLED_FLAG											
26	BURN_FLAG											
27	LTP_SUBJECT_ID											
28	FMU_SUBJECT_ID											
29	OU_SUBJECT_ID											
30	WS_SUBJECT_ID											
31	WSA_SUBJECT_ID											
32	TA_SUBJECT_ID											
33	FA_SUBJECT_ID											
34	FA_TYPE_ID											

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Field Name	Current Value	New Value		USI									
2	USI													
3	SAMPLE_ID													
4	SAMPLE_TECH_CODE													
5	SAMPLE_EVENT_ID													
6	FLD_PREP_CODE													
7	FLD_MATRIX_CODE													
8	FLD_QC_TYPE_CODE													
9	SAMPLE_USG_CODE													
10	COMPOS_TYPE_CODE													
11	CORE_ID													
12	COMPL_TYPE_CODE													
13	EXCAV_FLAG													
14	LITH_TYPE_CODE													
15	WTR_SRC_FLOW_FLAG													
16	EVAL_CLASS_CODE													
17	PORT_ID													
18	UNK_PORT_FLAG													
19	SCREEN_ID													
20	HYDRO_ZONE_ID													
21	LIB_REF_ID													
22	COMMENTS													
23	SOURCE_ORG_CODE													
24	DATA_STEWARD_CODE													
25	RELEASE_FLAG													
26	WEB_FLAG													
27	CREATED_BY													
28	LOAD_DATE													
29	MODIFIED_BY													
30	MODIFIED_DATE													
31	INACTIVE_DATE													
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Format: Arial, 10, Bold, Italic, Underline, Text Color, Fill Color, Border, Number, Percentage, Currency, Date, Time, Fraction, Decimals, Percentages, Text, Paragraph, Styles, Windows, Help

B26

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Field Name	Current Value	New Value	UDI									
2	UDI												
3	USI												
4	ULI												
5	TOP_DEPTH												
6	BOTTOM_DEPTH												
7	DEPTH_UOM												
8	START_DATE_TIME												
9	END_DATE_TIME												
10	VOLUME												
11	VOLUME_UOM												
12	CREATED_BY												
13	LOAD_DATE												
14	MODIFIED_BY												
15	MODIFIED_DATE												
16													
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10 Arial B I U

E25

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Field Name	Current Value	New Value		Unique Identifier									
2														
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Attachment B: ERDB Change Request

ERDB Change Request (v2.0)

Date: ____ Requestor:

Responsible individual	Activity and Supporting Information
User	Change summary:
User	Change justification:
User	User ID:
User	Date:
User	Approval:
DBA	Affected tables:
DBA	Affected fields:
DBA	Update statement:
DBA	Date:
DBA	Approval:
AAA	Approval:
WQH	Approval:
Other	Approval: